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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/728,580

12/05/2003

Samuel J. Danishefsky

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EXAMINER

BERNHARDT, EMILY B

ART UNIT

PAPER NUMBER

1624

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/728,580

Applicant(s)

DANISHEFSKY ET AL.

Examiner

Emily Bernhardt

Art Unit

1624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/5/03 (preliminary amendment).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17,33-49 and 84-91 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,8,12,14-17,33-36,44,47-49,84-86 and 88 is/are rejected.
- 7) ☒ Claim(s) 6,7,9-11,13,37-43,45,87 and 89-91 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/5/03</u> . | 6) <input type="checkbox"/> Other: _____ |

Claims 1-4,12,14-17,33-36,44,46-49,84-86 and 88 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1. Other than the moieties described on p.3 of the specification, intended scope of "acyl" for various R variables in the claims is completely unknown. There is no guidance in the specification other than the 3 moieties described for R3. "Acyl" embraces diverse moieties such as phosphonyl, sulfonyl, and other non-carbonyl derived groups with any type of atom in a chain or ring attached thereto. With further regard to the R3 variable, it is noted that examples given for the acyl term are exemplified in acyloxy moieties. Thus clarification of intended scope is needed.

2. Various other terms are not defined in the specification as well and consequently applicants are not clearly defining what is their invention.. See "ether", "ester", "amide", "aromatic", "**substituted** phthalimide", and "sulfide group". The latter term is completely open-ended since sulfide, i.e. -S- is divalent and thus needs an additional moiety to fulfill valency requirements. The remaining terms are classes of compounds such as a carboxylic ester or a sulfonamide or an aryl or heteroaryl ring system. How are such groups attached at the various ring positions in the instant formulas. Can they be substituted and with what types of

groups? In the absence of guidance in the specification how then is the public to know what is and what is not within the instant scope?

3. In claims 14 and 46 there appears to be extraneous text. See “[[3]]” appearing after “benzene” .

Claims 3-17 and 35-49 and 86-91 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot refer to two sets of claims to different features. See MPEP § 608.01(n). Note the improper dependency appears in each of claims 3, 35 and 86 and remaining claims objected to herein are dependent on these claims.

Claims 5-9,14,37-39,41,46,87,89 and 91 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. These claims recite subject matter outside the scope of claims from which they depend. For claims 14 and 46, R4 as benzene is outside the scope of the main claims . For remaining claims values for R2 are recited that are outside the scope for main claims which recite ethers, esters,amide,aromatics, phthalimides but not H, OH, formyl or keto groups.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: R5 as -OC(2-6)alkyl is not seen in the specification although it was recited in original claim 1.

Claims 1-4, 12, 14-17, 33-36, 44, 46-49, 84-86 and 88 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention. The variety of functional groups permitted throughout the R variables is virtually non-limiting for choices such as esters, ethers, amide, aromatics, acyl, substituted, and sulfide groups for which there is no reasonable basis for assuming that the myriad of compounds embraced by the claims will all share one or more physiological properties urged on p.52 of the specification since they are so structurally dissimilar as to be chemically non-equivalent and there is no basis in the prior art for assuming the same. The few examples of alkoxy groups, acyloxy, lower acyl and one silyloxy group is not remotely **representative** of the scope of functional groups permitted at almost every variable. Note In re Surrey 151 USPQ 724 regarding sufficiency of disclosure for a Markush group. Also note the criteria for enablement as set out in In re Wands cited in MPEP 2164.01(a), August 2000

edition such as: 1) the breadth of the claims, which easily is in the millions; 2) nature of invention- which is directed to biological activity. It is well established that "the scope of enablement varies inversely with the degree of unpredictability of the factors involved" and physiological activity is generally considered to be unpredictable. See *In re Fisher* 166 USPQ 18;

3) the state of the prior art- compounds having the same basic skeleton with identical substitution (see anticipatory art applied below) are used as synthetic precursors ; 4) the lack of direction (i.e. working examples) provided as to what other derivatives might work, this rejection is being applied.

Claims 14 and 46 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. R4 as benzene recited in the amended claims lacks descriptive support in the disclosure originally filed.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5,8, 84-86 are rejected under 35 U.S.C. 102(b) as being anticipated by Zhou (ref.29 cited in applicants' IDS). Zhou describes 2 compounds within the instant scope namely **6** and **11** on p.2044 in Scheme 2. The first compound has a benzyloxy corresponding to instant R2 as an ether group and 11 has formyl as R2 recited in claim 5. Remaining variables in **6** and **11** fall within claims' scope.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 84-86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Myers (US publication '873). Myers applied as of its provisional filing date teaches very similar compounds to that claimed herein for use in treating cancers. See pages 1-7 especially compounds on p.6-7 and examples such as 3,6-19. These

compounds have R3 as H and R6 as CN with R2 being a variety of functional groups such as aromatic, amides, ethers and sulfide groups. The sole difference from what is being claimed herein is the presence of an OH vs. instant R9 which can be H, methyl, methoxy, etc. However note that Myers teaches the interchangeability of many groups also claimed herein. See definition of X1 on p.3 which includes alkoxy and other choices covering the instant scope. Thus it would have been obvious to one skilled in the art at the time the instant invention was made to modify the compounds pointed out above by changing the substituents on the benzene ring and in so doing obtain instant compounds for use as antitumor agents.

It is recognized applicants are urging benefit under 35 USC 120 and 119(e) however only the instant filing date is being accorded since claims rejected herein do not comply with 35 USC 112 par. one for the reasons set forth in the above 112 rejections.

The disclosure is objected to because of the following informalities: Status of parent should be updated in the specification on p.1.

Appropriate correction is required.

In applicants' preliminary remarks mention is made of a revision to instant specification in accordance with an amendment filed in parent. It is not apparent

from a review of the parent file which amendment applicants mean since there is no entry for an amendment filed on 1/25/03. There is one for 2/7/03 but no amendments to the specification were made. Applicants are requested to point to the revisions made to the specification .

Note claims 6,7, 9-13, 37-43,45, 87 and 89-91 are only objected to for being improper dependent or multiple dependent claims as discussed above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emily Bernhardt whose telephone number is (571) 272-0664.

If attempts to reach the examiner by phone are unsuccessful, the supervisor for AU 1624, Dr. Mukund Shah, can be reached at (571)272-0674.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.


EMILY BERNHARDT

PRIMARY EXAMINER

Group 1600